



Case Report

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Enhancement of Maxillary Buccal Facial Aesthetics with Magnet Retained Cheek Plumper in Chronic Smoker Patient: A Case Report

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Abstract

The Major factor that affects an individual's life is Aesthetics. Age-related compromise of a patient's appearance only makes it more of a challenge for the clinician to recreate lost aesthetics. Especially in the geriatric age group, where removable complete dentures are a common treatment modality, the recreation of the lost labial and buccal fullness deserves almost as much attention as the reestablishment of the more vital functions of mastication and speech. This aesthetic compromise and its management become more daunting in chronic smoker patients due to added loss of the buccal pad of fat and flaccidity of buccal musculature resulting from the pathologic overproduction of matrix metalloproteinases. Cheek plumper appliances are a popular interventional treatment option in such cases.

The underlying principle for the provision of this appliance is the reconstruction of buccal aesthetics by obliteration of the lost buccal corridor with acrylic plumping devices attached using various techniques to the buccal flange of the maxillary denture. This clinical report describes one such technique of provision of cheek plumpers in a complete denture patient using intraoral magnets.

Keywords: *Magnetic Cheek Plumpers, Esthetics, Complete dentures, Ageing.*

Introduction

Complete denture therapy is a multi-faceted treatment plan that encompasses the reestablishment of several very important aspects of the patient's overall functionality such as masticatory ability, phonation, and aesthetics. External features of the face like nose, eyes, ears, cheeks, lips and facial musculature are important features of the face because these features highlight the looks and appearance of the face. The factors affecting the change in the facial appearance in the course due time of one's life are, extraction of molars due to any reason, thinning of the tissues due to aging, weight loss, alveolar resorption. Replacing the normal function of the mastication is not only an option today, patients also demand aesthetics and look in today's time. In a complete denture patients mostly sunken cheeks are observed, which can be managed by providing cheek plumper with the denture to overcome the sunken cheek musculature. There are two types of plumper attachment, undetachable/conventional cheek plumper and detachable cheek plumper. The undetachable cheek plumper Affects retention because it increases the weight of the maxillary denture, muscle fatigue is observed in long-term use of the undetachable cheek plumper and it Should not be used in patients with limited mouth opening. Sunken cheeks make a person's age appearance old than the present age and decrease the self-confidence of the patients. To overcome the sunken cheek problem the following case report focuses on the improvement in the facial appearance of a completely edentulous patient with the help of magnetic detachable cheek plumper.

Case Report

A 63-years-old patient reported to the Department of Prosthodontics, Crown & Bridge, and Implantology at Daswani Dental College, Kota, Rajasthan, India with the chief complaint of missing teeth and poor aesthetics. On intraoral and extraoral examination, the patient had completely edentulous maxillary and mandibular arches. He had lost his teeth over 10 years because of periodontal problems and was edentulous for the past 8 years. Before now the patient was wearing a denture that was broken but he

was still unsatisfied with the looks. So, the patient was conscious about his sunken cheeks and desired a prosthesis that would make his face look fuller and healthier (Figure 1.).

He was leading a socially isolated life due to the psychological stress of his appearance. Keeping the patient's demand in mind, the treatment plan was formulated. It was decided to give maxillary and mandibular complete dentures with intraoral magnetic retained cheek Plumpers for the maxillary denture. Maxillary and mandibular impressions were made using impression compound (Y Dents, MDM Corporation). Custom trays were made using auto polymerizing acrylic resin. Border molding was done using low fusing impression compound (DPI, pinnacle tracing green sticks.), and wash impressions were made with zinc oxide eugenol impression material (Coltene impression paste). Jaw relations were recorded. For the try-in appointment, waxed dentures were first tried for occlusion and aesthetics with retained magnets (Figure.2).

After that cheek plumper was made in wax and was modified until the result is not achieved and magnets were attached to the wax plumpers(Figure.3).

When the result was achieved it was attached to the maxillary denture and then it was evaluated to give the patient a fuller appearance (Figure 4.).

The waxed plumper was separated from the waxed denture. Magnets were removed and the impression of magnets was incorporated on both the try-in denture and cheek plumpers. After that flasking and dewaxing procedures were completed in two different flasks for the final prosthesis and cheek Plumpers separately (Figure 5 & 6.).

Packing of the mold space with heat-polymerizing (Heat cure) acrylic material (Ivoclar SR triplex denture resin material) was completed and was kept overnight on a bench press and next day curing procedures were performed according to the manufacturer's instructions. After deflasking, the cured final prosthesis, and Plumpers were retrieved. Trimming, finishing, and polishing procedures were performed (Figure 7 & 8.).

Then the total of 12 magnets was used of commercially available magnets (Nickel coated magnets), 3mm in diameter and 1.5mm in thickness was attached to retain the cheek plumper with the final prosthesis (Figure 9.).

Provision for placement of magnets in the flange of the final prosthesis and the cheek plumper was made and positioned with the help of auto polymerizing resin. Complete polymerization was ensured by placing in a pressure pot and finishing and polishing were then carried out. The attachment of the plumper to the prosthesis was first checked outside the patient's mouth (Figure 10.).

The prosthesis along with the plumper was then checked in the patient's mouth for comfort, function, and aesthetics (Figure 11 & 12.).

The patient was educated and given common post-insertion instructions and encouraged to make efforts to learn to adapt to the new dentures and magnetically retained cheek plumper about the positioning of the plumper to the prosthesis. Within 14 days, the patient showed relief and satisfaction in mastication and phonetics, and his aesthetic dilemma was reduced with the use of detachable magnetic retained cheek plumper and called for a regular check-up to evaluate any soreness or looseness of dentures. The patient's demands were fulfilled and now he can express himself with confidence and looks a little younger than before.



Figure 1: Pre-operative view



Figure 2: Magnets Retained during the try-in procedure



Figure 3: Magnets retained with wax cheek plumpers



Figure 4: Try-in procedure.



Figure 5: Flasking of cheek Plumpers



Figure 6: Deflasking of cheek Plumpers



Figure 7: Finished and polished denture without magnets



Figure 8: Finished and Polished cheek plumpers without magnets



Figure 9: Cheek Plumper retained with 3mm x 1.5mm magnets.



Figure 10: Final prosthesis outside the patient's Mouth

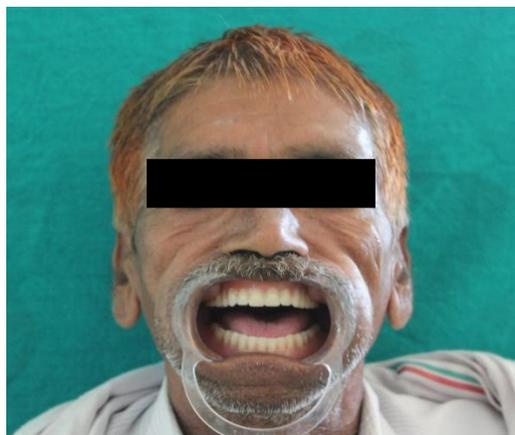


Figure 11: Denture along with Cheek Plumper in Patient's Mouth



Figure 12: Post-Prosthetic view of the Patient

Discussion

The term 'aesthetics' was coined in 1750; a blend of knowledge to give beauty, in contrast to the science of logic for the truth. According to GPT, denture aesthetics is defined as the effect produced by a dental prosthesis that affects the beauty and attractiveness of the person. In this modern world, denture aesthetics is not confined only to the selection of teeth based on factors like form, shape, color, arrangement, and sex. Instead, it is more about harmonization between the artificial and natural tissues. Loss of teeth in the posterior region results in loss of cheek support due to which the cheek tends to move medially to meet laterally expanding tongue. Also, loss of the teeth in the anterior region leads to changes in cheek contour as a result of loss of vertical dimension of occlusion. The apparent loss of subcutaneous fat, buccal pad of fat, and elasticity of connective tissue also produces the slumped cheeks, seen in aged.

Conclusion

This case report describes a simple and economic prosthetic solution that not only offers looks and aesthetics but also improves the psychological profile of the patient and helps to gain confidence. It's a simple and non-invasive treatment procedure to recreate the facial aesthetics of a patient with sunken cheeks. Cheek plumpers retained with magnets were tried to improve the patient's facial appearance.

The magnet retained cheek plumper prosthesis successfully restored the contour of the cheek, improved the aesthetics and psychological well-being of the patient.

Magnetic retention for sunken cheek patients is advantageous due to its small compact size and strong attractive forces. As we have used such intraoral magnets, the patient was informed about the limitations, and he was instructed to report to the clinic once every 6 months to replace the magnets if required.

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